

Applicant	Michael M. Walters et al.	<u>PRELIMINARY</u> <u>AMENDMENT</u>
Patent No.	6,278,263	
Issue Date	August 21, 2001	
Group Art Unit	Not Assigned	
Examiner Name	Not Assigned	
Attorney Docket No.	125.028USR1	
Title: MULTI-PHASE CONVERTER WITH BALANCED CURRENTS		

Commissioner for Patents
Washington, D.C. 20231

Prior to initial review, please add the following new claims:

IN THE CLAIMS

19. A method of balancing a plurality of channel currents, each of the plurality of channel currents flowing in a corresponding one of a plurality of channels in a multi-phase DC/DC converter, the DC/DC converter having an output voltage, the method comprising:

receiving a plurality of channel current signals, each of the plurality of channel current signals representative of a channel current for one of the plurality of channel currents;

averaging together the plurality of channel current signals to thereby determine an average channel current signal;

comparing a signal representative of the output voltage to a reference signal to thereby determine an error signal; and

controlling the channel currents based at least in part on the average channel current signal, one of the plurality of channel current signals, a reference signal and the error signal.

20. The method of claim 19, wherein controlling the channel currents comprises:

generating a plurality of pulse width modulated signals for the plurality of channels to selectively control the channel currents, each of the plurality of pulse width

modulated signals based at least in part on the average channel current signal, one of the plurality of channel current signals, a reference signal and the error signal.

21. The method of claim 19, wherein the reference signal comprises a ramp signal.

22. A control circuit for a multi-phase DC/DC converter having an output voltage, the control circuit comprising:

an averaging circuit, responsive to a plurality of channel current signals representative of channel currents for a plurality of channel, that averages the values of the plurality of channel current signals to produce a signal representative of the average channel current;

an error amplifier, responsive to the output voltage and a reference signal, the error amplifier providing an error signal; and

a plurality of pulse width modulator circuits, each responsive to the error signal, the signal representative of the average channel current, one of the plurality of channel current signals, and a second reference signal to produce a plurality of pulse width modulated signals to control the plurality of channels of the multi-phase DC/DC converter.

Remarks

Claims 19-22 have been added, the currently pending claims are claims 1-22. Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2201.

PRELIMINARY AMENDMENT

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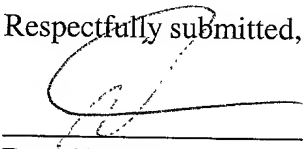
Attorney Docket No. 125.028USR1

Title: MULTI-PHASE CONVERTER WITH BALANCED CURRENTS

If necessary, please charge any additional fees or credit overpayment to Deposit
Account No. 501373.

Respectfully submitted,

Date: January 9, 2002



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**AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
INTERSIL CORPORATION**

INTERSIL CORPORATION, a corporation organized and existing under the laws of the State of Delaware, hereby certifies as follows:

FIRST: The present name of the corporation is **INTERSIL CORPORATION** and the name under which the corporation was originally incorporated is **HSS Operating Corporation**. The date of filing of its original Certificate of Incorporation with the Secretary of State of the State of Delaware was June 2, 1999.

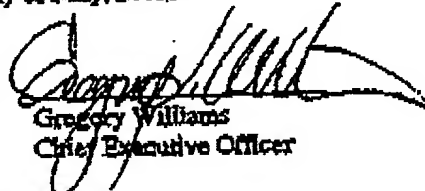
SECOND: This Amended and Restated Certificate of Incorporation (the "Certificate") restates and integrates and further amends in its entirety the Certificate of Incorporation of this corporation. This Certificate was duly adopted by a majority vote of the stockholders of the corporation in accordance with Sections 228, 242 and 245 of the General Corporation Law of the State of Delaware.

THIRD: This Certificate shall become effective immediately upon its filing with the Secretary of State of the State of Delaware.

FOURTH: Upon the filing of the Certificate with the Secretary of State of the State of Delaware, the Certificate of Incorporation of the corporation shall be amended and restated in its entirety to read as set forth on Exhibit A attached hereto.

IN WITNESS WHEREOF, said corporation has caused this Certificate to be executed by a duly authorized officer this 23rd day of May, 2001.

By:


Gregory Williams
Chief Executive Officer

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STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
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EXHIBIT A

**AMENDED AND RESTATED CERTIFICATE OF INCORPORATION
OF
INTERSIL COMMUNICATIONS, INC.**

1. *Name.* The name of the Corporation is Intersil Communications, Inc.

2. *Registered Office and Agent.* The address of the Corporation's registered office in the State of Delaware is 1209 Orange Street, in the City of Wilmington, County of New Castle. The name of the Corporation's registered agent at such address is The Corporation Trust Company.

3. *Purpose.* The purposes for which the Corporation is formed are to engage in any lawful act or activity, including, without limitation, forming and/or acquiring foreign subsidiaries, for which corporations may be organized under the General Corporation Law of the State of Delaware ("DGCL") and to possess and exercise all of the powers and privileges granted by such law and any other law of Delaware.

4. *Authorized Capital.* The aggregate number of shares of stock which the Corporation shall have authority to issue is One Thousand (1,000) shares, all of which are of one class and are designated as Common Stock, par value \$.01 per share.

5. *Incorporator.* The name and mailing address of the incorporator are Marian T. Ryan, 4000 Bell Atlantic Tower, 1717 Arch Street, Philadelphia, Pennsylvania 19103-2793.

6. *Bylaws.* In furtherance and not in limitation of the powers conferred by law, the board of directors of the Corporation is authorized to adopt, amend or repeal the bylaws of the Corporation, except as otherwise specifically provided therein, subject to the powers of the stockholders of the Corporation to amend or repeal any bylaws adopted by the board of directors.

7. *Elections of Directors.* Elections of directors need not be by written ballot unless and except to the extent the bylaws of the Corporation shall so provide.

8. *Right to Amend.* The corporation reserves the right to amend or repeal any provision contained in this Certificate as the same may from time to time be in effect in the manner now or hereafter prescribed by law, and all rights, preferences and privileges conferred on stockholders, director or others hereunder are subject to such reservation.

9. *Unanimous Written Consent Required.* If any action is to be taken by stockholders without a meeting, such action must be authorized by unanimous written consent signed by all of the holders of outstanding voting stock.

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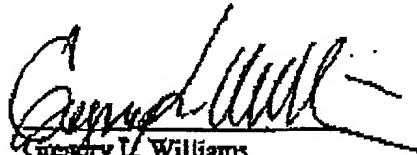
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10. *Limitation on Liability.* The directors of the Corporation shall be entitled to the benefits of all limitations on the liability of directors generally that are now or hereafter become available under the DGCL. Without limiting the generality of the foregoing, to the fullest extent permitted by the DGCL, as it exists on the date hereof or as it may hereafter be amended, no director of the Corporation shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit. Any repeal or modification of this Section 10 shall be prospective only, and shall not affect, to the detriment of any director, any limitation on the personal liability of a director of the Corporation existing at the time of such repeal, modification or adoption.

Dated: May 23, 2001

By:


Gregory L. Williams
Chief Executive Officer

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